C4IT Service Center

C3CEN - Evolutionary Engineering to Sustain the Present and Develop the Future

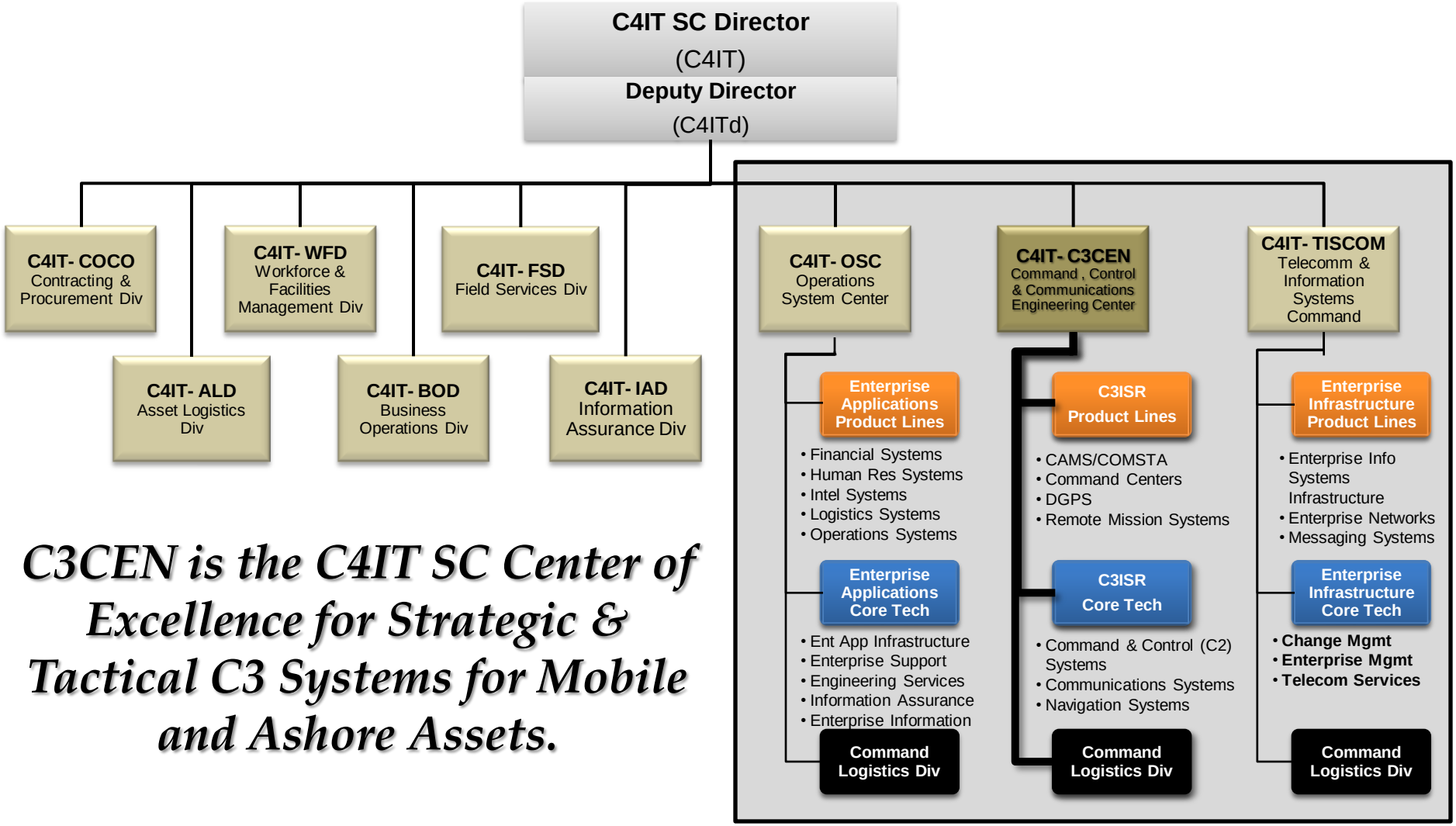
Command, Control, & Communications Engineering Center

Captain Michael J. Johnston, Commanding Officer

What We Do

C3CEN delivers, manages and supports mission enabling Command, Control, Communications, Surveillance, and Navigation Capability through engineering rigor and standard processes you can trust.

How We Fit



C3CEN is the C4IT SC Center of Excellence for Strategic & Tactical C3 Systems for Mobile and Ashore Assets.

Organization

Commanding Officer
CAPT Michael Johnston

Executive Officer
CDR Kyle Smith

Product Lines
Mr. David Wolfe

Core Technologies
Mr. Larry Gansz

Command Logistics
Mr. Jeffrey Kayser

C3CEN Product Lines/Core Technologies

- Command Center
- DGPS
- Remote Mission Systems
- CAMS
- Navigation Systems
- Communications Systems
- C2 Systems

Internal shared services division providing the business operational needs to the Product Lines & Core Technologies

C3CEN provides 39 products, incorporating 153 product types, directly supporting all Coast Guard Missions

How We Do Business

Product Line Management Approach – Provide the required level of affordable readiness for assets by managing the entire lifecycle.

- Complete control, cradle-to-grave support better for the operator
- Consistent with other Coast Guard Service Centers/Logistics Centers

Core Technologies – The life cycle management of asset classes that span across multiple product lines.

- Does not have control of the physical assets

Contract Approach – Government acts as the systems integrator. Use industry/contract support for:

- Augmenting Government Capabilities – SETA
- Product Deployment/Installs
- Some Turn Key Product Development/Delivery

•Yearly budget of over $200 million per year

• 581 Total "Team" including 117 officers, 126 enlisted, 141 civilian (GS) and 197 contractors

•Main facility located in Portsmouth, VA (Offices, labs and classrooms)

•Electronics Repair Lab in Baltimore, MD

•Detached Duty personnel in Alexandria, VA; Oakland, CA; Norfolk, VA

Command Logistics Division

- Shared services division providing the business operations needs to the Product Lines and Core Technologies Divisions
- Contract efforts typically $1 Million or less task orders on existing contracts
- Core Functions:
  - Administration
  - Security (*Key in DD-254 Efforts*)
  - Engineering Services
    - Requirements (Project Management)
    - Life Cycle Planning (Configuration Control)
    - IV&V (Testing)
    - ISSO
  - Resources (Small Purchases and Supply)
  - Training Branch
  - Electronics Repair Facility, Baltimore

Product Lines

Command Center

Differential GPS

Remote Mission Systems

CAMS

Command Center Product Line

- Product Line Manager: CDR Lamont Bazemore
- Asset Lines
  - Tactical Command Centers (Sectors/VTS)
  - Strategic Command Centers (District/Area/HQ/MIFC)
- Product Line Goals
  - Continued development & deployment of WatchKeeper
  - Upgrade/consolidate COP/SAROPS hardware & software
  - Leverage service bus data delivery to facilitate hardware convergence
  - Converge VTS/PAWSS
- Future Focus Areas:
  - GIS Consolidation
  - SOA
  - Expanded delivery/consumption of standardized data across enterprise service bus

Command Center Products

GCCS-J

C2PC

WatchKeeper

SAROPS

CCDS

COP

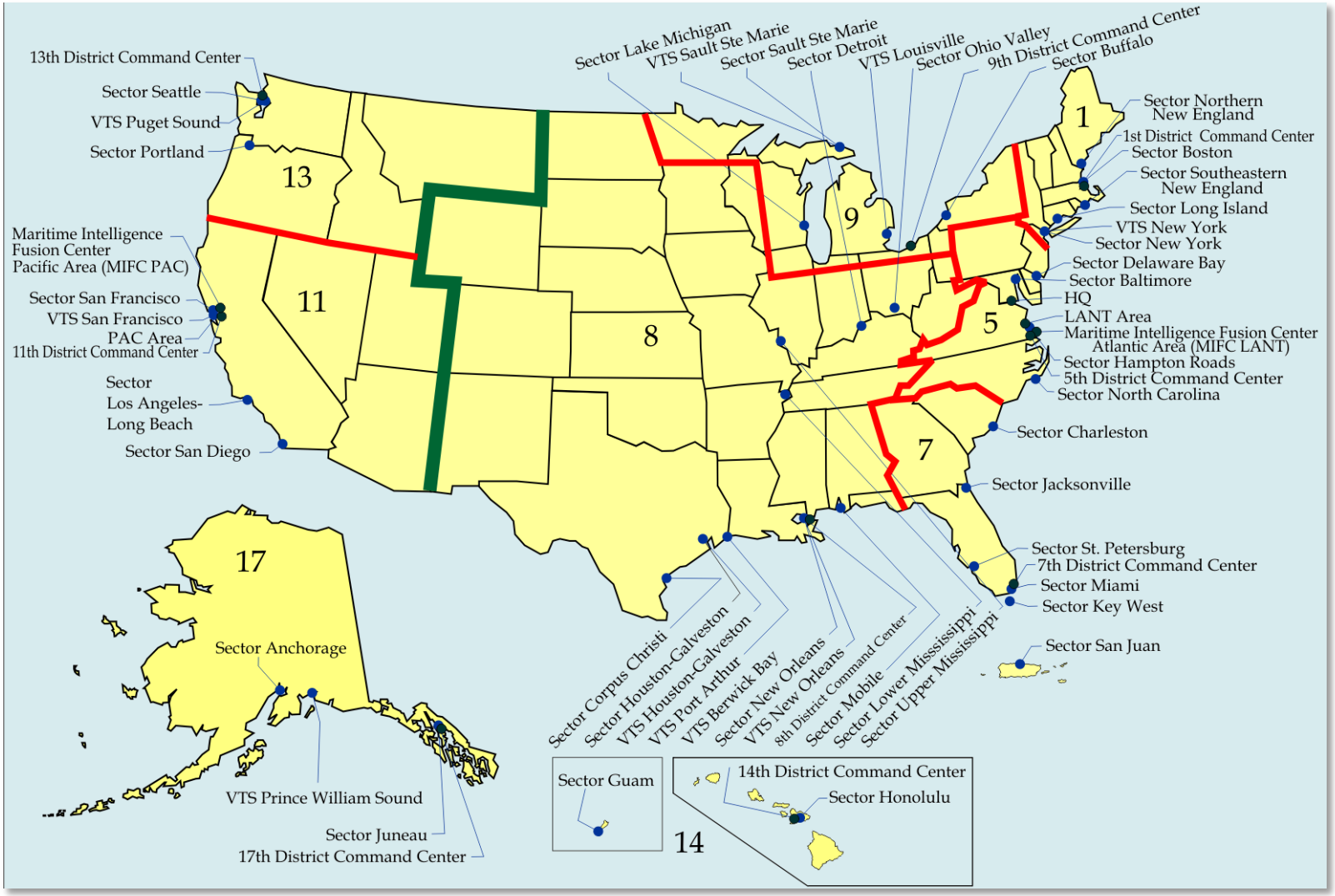
CWSS

CGVTS

PAWSS

PCSS

Command Center Locations



Differential GPS

- Product Line Manager: LCDR Tim McClellan
- Asset Lines
  - Maritime DGPS
  - Nationwide DGPS
- Product Line Goals:
  - Bring DOT sponsored remote sites up to same technology level as USCG sponsored remote sites
  - Align current control and monitoring system with over-arching CG command centers system architecture
  - Improve all-weather performance of MF broadcast system
- Future Focus Areas
  - Alternatives for remote site primary/secondary power sources
  - Alternatives for communications with, and monitor and control of remote sites
  - Provide corrections for other GNSS signals in addition to GPS L1

dGPS Components

86 Remote MF Broadcast Sites

2 Operate Control System Suites

Support and Engineering Baselines

DGPS Locations

Remote Mission System Product Line

- Product Line Manager: CDR Doug Norstrom
- Asset Lines
  - R21/NDS
  - NAIS
  - SRAN
  - Microwave (TBD)
- Product Line Goals
  - Deliver, & maintain fixed facility VHF communications
  - Provide Nationwide automatic identification of vessels in harbors and harbor approaches
  - Provide electronic aids to navigation in support throughout the Coast Guard
- Future Focus Areas
  - National deployment of Rescue 21 capabilities
  - Replacement/Relocation of aging Western Rivers and Alaska remote NDS sites
  - Fabrication and Installation of Remote Sound Signal Controls
  - Alternate power sources for remote sites. (Wind/Solar/Fuel Cells/etc)

RMS Products

R21: Rescue 21

NDS: National Distress System

NAIS: Nationwide Automatic Identification System

SRAN: Short Range Aids to Navigation

Remote Mission System Locations

Remote Mission System Locations

CAMS Product Line

- Product Line Manager: CDR Steve Long
- Asset Lines
  - Fixed Assets (e.g., Communications Area Master Stations (CAMS/COMMSTAs) antennas, towers, etc.)
  - Contingency Communication Assets (e.g., Mobile Command Centers, etc.)
- Product Line Goals
  - Provide Systems Lifecycle Management and oversight for USCG long range and mobile contingency systems
  - Orchestrate recapitalization and system improvement initiatives
  - Migrate to fully Modernization organization
- Future Focus Areas
  - Expand backup communications capability for long range communications stations
  - Convert remote control system from analog to Internet Protocol (IP) based network
  - Expand High Frequency (HF) communications systems to improve USCG and Customs connectivity and reduce coverage gaps
  - Reduce sustainment costs and improve operational availability

CAMS Products

Mobile Contingency Communications

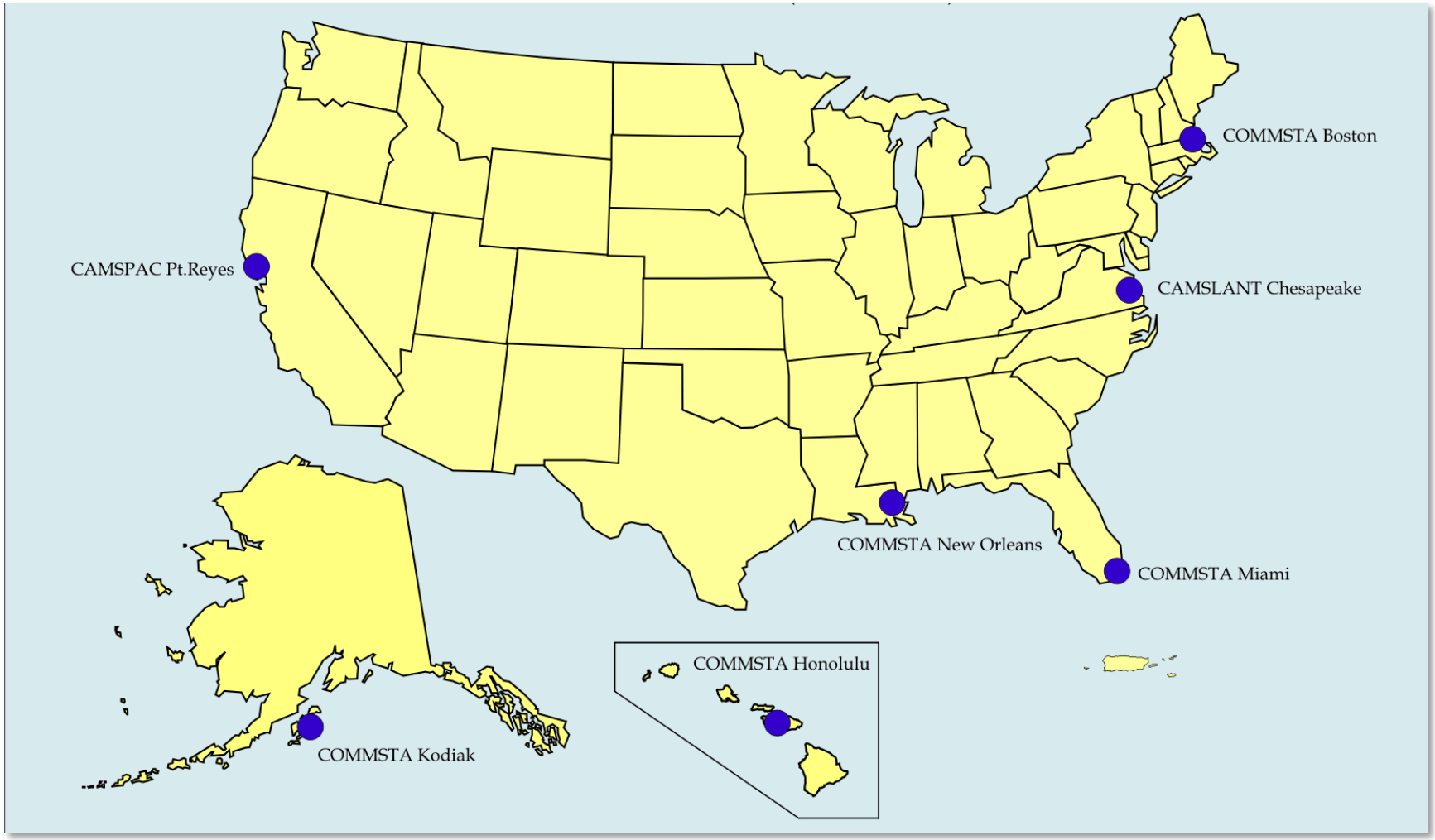
Antenna Systems for Long Range Communications

Satellite Systems

High Powered Transmitters and Receivers

Automation, Antenna Matrices, Modems, Control Heads, Wide Area Networking

CAMS Locations

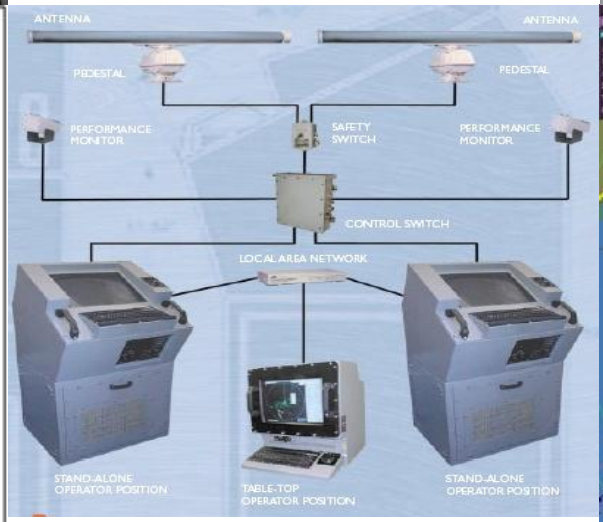


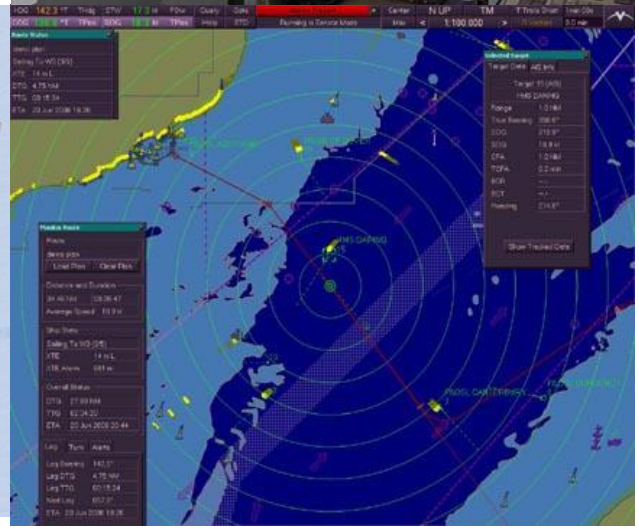
Core Technologies

Command & Control

Navigation

Communications





Command and Control Core Technology

- Product Line Manager: CDR Kevin Carroll
- Product Line Goals
  - Deploy SEAWATCH to in-service fleet
  - Sustain Deepwater Assets affordably
  - Sustain Biometrics At Sea System (BASS)
- Future Focus Areas
  - Align systems for maximum interoperability
    - Standard GIS protocols
    - DOD programs of record
  - Maintain open architecture standards within system designs
  - SeaWatch selected as the C2 system for the OPC
    - Develop SeaWatch as integrator C2 system for OPC
    - All data exchanges to standard, open formats for radars and other sensors

C2 CT Products

Seawatch-FRC

Seawatch-378, 270

NSC CGC2 Segment 1

BASS

SCCS-378, 270, 210, 110

Navy Type Navy Owned Systems

Mission Systems Pallet

Navigation Core Technology

- Core Technology Manager: CDR Robert Hannah
- Product Line Goals
  - SSR refresh entire fleet w/combo of military AN/SPS-73 and commercial IMO-compliant AN/SPS-50 radars
  - VEGA-ECDIS/ECS: field VEGA ECDIS on CG buoy tenders; complete 5th gen VEGA-ECS development.
- Future Focus Areas:
  - Continued evaluation and use of COTS-based IMO compliant navigation systems
  - Identify next generation SINS package for CG small boat navigation
  - Continued advocacy of industry open architecture for sensor integration (NMEA)

Nav CT Products

SSR Maritime Surface Search Radars

SINS Scalable Integrated Navigation System

EAIS Encrypted Automatic Identification System

NVEO Night Vision Electro-Optical Systems

CG ECS Electronic Charting System

CG ECDIS Electronic Chart Display Info System

CG DDS LAN/CG Data Distribution Systems

Communications Core Technology

- Core Technology Manager: CDR Michael Taffe
- Core Technology Goals
  - Upgrade short range communications to Narrowband & Advanced Encryption Standard (AES) capabilities
  - Upgrade USCG MILSATCOM to Integrated Waveform (IW)
  - Upgrade HF systems to Automatic Link Establishment (ALE) capable radios
- Future Focus Areas
  - Research, procure & implement next generation short range communications interoperability solutions
  - Field Joint Tactical Radio Systems (JTRS) radios and move MILSATCOM to Multiple User Object System (MUOS)
  - Increase HF availability/reliability by adding frequencies and infrastructure to the Customs Over The Horizon Enforcement Network (COTHEN)
  - Improve Small Boat Tactical Communications between boarding party and ship to include high bandwidth data applications (e.g., BASS)

Comms CT Products

VHF/UHF systems

MILSATCOM

MF/HF Systems

Ancillary Systems

Primary Contract Vehicles

Technical Engineering Development and Support Services (TEDSS) – Five Year, Multiple Award 8a IDIQ, $250M, awarded February 2012.

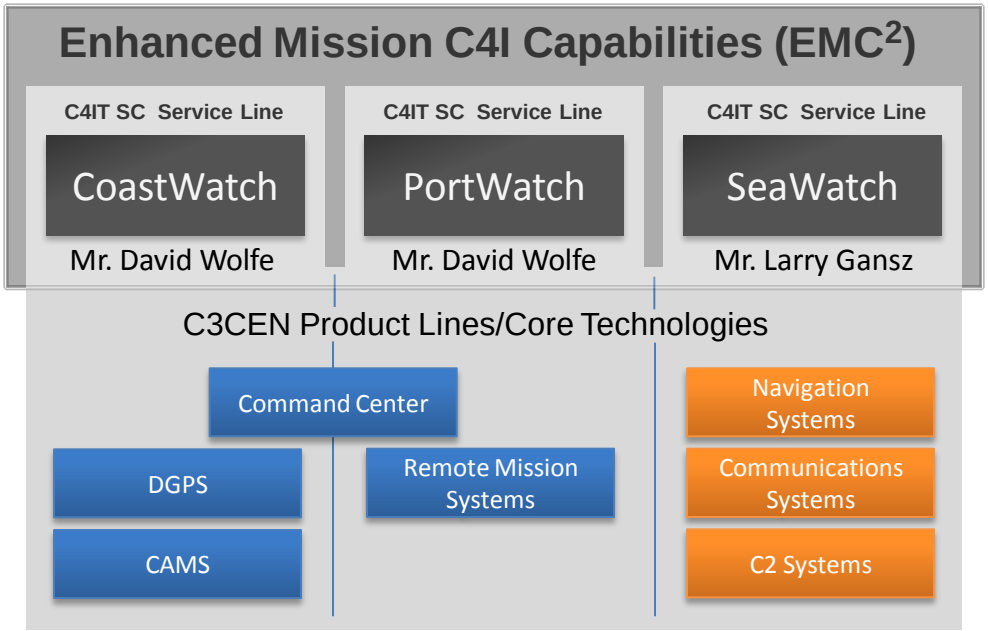
Tactical Communications Modernization (TACCOM) - Five Year, Multiple Award IDIQ, $300M, awarded March 2012. Covers five technical categories from Subscriber Base (portable radios), Infrastructure (towers, huts), to O&M Maintenance services.

Installation Logistics Maintenance Support (ILMS) FUTURE – Five Year, Multiple Award 8a IDIQ, ≈ $275M

Occasional Point Solution Contracts – e.g. Command Center Display Contract, Seawatch Install.

Enhanced Mission C4I Capabilities (EMC²)

- Evolution of the current strategic and tactical product lines into a fully modern, affordable C4I system capable of supporting Coast Guard missions across the full spectrum of operations.



- Unites CoastWatch, PortWatch and SeaWatch Service Lines into an EMC² "Family of Systems" with a common architecture.

- Building upon DISA's Joint C2 (JC2) modernization efforts utilizing the Ozone Widget Framework (OWF) and Agile Client.

Takeaways

C3CEN Core Business and Approach

- The Part of the C4IT SC Responsible for Command, Control, Communications, Surveillance, and Navigation Capability
- Product Line and Core Technology Management

General Contract Approach with Emerging Requirements

- Core set of Contract Vehicles
- C3CEN Mission Support Requirements can change, Watch FBO

Future in Modular Scalable Systems

- Resource limited environment requires solutions that can provide a substantial return on investment
- Allows for incremental investment based on modular design

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